TRANSPORTATION 2035 PLAN

DRAFT ENVIRONMENTAL IMPACT REPORT

STATE CLEARINGHOUSE NO. 2008022101

Prepared for

Metropolitan Transportation Commission

by

DYETT & BHATIA
Urban and Regional Planners

In association with

Environmental Science Associates • *Environmental Consultants*

December 2008

EIR Preparers

METROPOLITAN TRANSPORTATION COMMISSION

Doug Kimsey, *Director, Planning*

Ashley Nguyen, *Senior Transportation Planner/Analyst (EIR Project Manager)*

Harold Brazil, *Associate Transportation Planner/Analyst*

Liz Brisson, *Assistant Transportation Planner/Analyst*

Ben Espinosa, *Associate Transportation Planner/Analyst*

Chuck Purvis, *Principal Transportation Planner/Analyst*

Rupinder Singh, *Associate Transportation Planner/Analyst*

Kearey Smith, *GIS Planner/Analyst*

DYETT & BHATIA URBAN AND REGIONAL PLANNERS

Michael V. Dyett, FAICP, *Principal*

Vicki Hill, *Director of Environmental Services*

Melissa McMahon, *Associate*

Stan Lai, *Associate*

Melinda Hue, *Planner*

Andrew Duszak, *GIS Specialist*

ENVIRONMENTAL SCIENCE ASSOCIATES

Karl Heisler, *Senior Project Manager*

Jyothi Iyer, *Analyst*

Dana Ostfeld, *Analyst*

Eric Schniewind, *Analyst*

Sabine Tucker, *Analyst*

PEER REVIEWERS

Greg Tholen, *Bay Area Air Quality Management District*

Lindy Lowe, *San Francisco Bay Conservation and Development Commission*

This page intentionally left blank.

Table of Contents

PART FOUR: BIBLIOGRAPHY AND APPENDICES

List of Tables

List of Figures

2.6 Noise

2.7 Geology and Seismicity

2.8 Water Resources

2.9 Biological Resources

2.10 Visual Resources

This page intentionally left blank.

Executive Summary

This Program Environmental Impact Report (EIR) has been prepared on behalf of the Metropolitan Transportation Commission (MTC) in accordance with the California Environmental Quality Act (CEQA). It analyzes a proposed 25-year regional transportation plan, known as the Transportation 2035 Plan, prepared by MTC. The proposed Transportation 2035 Plan represents MTC's policy and action statement for how to approach the region's transportation needs over the next 25 years. The Transportation 2035 Plan proposes a set of future transportation projects and programs that can be implemented with available funding as well as identifies projects that could be considered if new funding is obtained. The Transportation 2035 Plan is intended to serve the region's mobility needs while addressing other important societal goals. The eight main goals of the proposed Transportation 2035 Plan are:

- A Safe and Well-Maintained System;
- A Reliable Commute;
- Efficient Freight Travel;
- Equitable Access to Mobility;
- Livable Communities;
- Clean Air;
- Climate Protection; and
- Security and Emergency Management.

MTC recognizes that transportation decisions have a role in supporting the economic and community vitality of the Bay Area. The proposed Transportation 2035 Plan represents MTC's best effort to guide the region in the development of a transportation system that meets the Bay Area's mobility needs through Transportation 2035 goals. The proposed Transportation 2035 Plan addresses the Bay Area's ground transportation system. Development and environmental analysis of regional airport and seaport plans occur in separate processes.

INTRODUCTION TO THE EIR

PURPOSE

This environmental assessment of the proposed Transportation 2035 Plan—which may also be referred to as the "proposed Project" throughout this document—fulfills the requirements of CEQA and the CEQA Guidelines and is designed to inform decision-makers, responsible and trustee agencies, and the general public of the range of potential environmental impacts that could result from implementation of the proposed Transportation 2035 Plan. This EIR recommends a set of measures to mitigate identified significant adverse regional environmental impacts. It also analyzes a range of alternatives to the proposed Transportation 2035 Plan. The final EIR will include a Mitigation Monitoring Program that identifies who will be primarily responsible for implementing mitigation measures. As the lead agency for preparing this EIR, MTC will use it in its review of the proposed Transportation 2035 Plan prior to taking action on the Plan.

SCOPE

The Transportation 2035 Plan EIR is a program EIR, as defined in Section 15168 of the CEQA Guidelines as: "[An EIR addressing a] series of actions that can be characterized as one large project and are related either: (1) Geographically; (2) A[s] logical parts in the chain of contemplated actions; (3) In connection with the issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or (4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental impacts which can be mitigated in similar ways."

As a programmatic document, this EIR presents a region-wide assessment of the potential impacts of the proposed Transportation 2035 Plan. Where appropriate, it also provides corridor-by-corridor or county-by-county assessment. However, it does not evaluate subcomponents of the proposed Transportation 2035 Plan nor does it assess project-specific impacts of individual projects, which are each required to separately comply with CEQA and/or NEPA as applicable.

EIR ORGANIZATION

The EIR is organized into four parts, outlined below. This Executive Summary outlines the proposed Project and alternatives, summarizes impacts and mitigation measures in Table S-1, identifies the environmentally superior alternative, and describes areas of known controversy.

PART ONE: INTRODUCTION AND PROJECT DESCRIPTION

Part One includes two chapters. *Chapter 1.1* describes the relationship between the proposed Transportation 2035 Plan and the EIR and describes the basic legal requirements of a program level EIR. It describes the level of analysis and the alternatives considered as well as how this EIR is related to other environmental documents and its intended uses. *Chapter 1.2* introduces the purpose and objectives of the proposed Transportation 2035 Plan and summarizes the components of the Plan and key growth projections and assumptions used in the EIR analysis. This includes a discussion of the existing project setting and an outline of the Bay Area's projected population and employment growth rates and development patterns through the planning horizon to the year 2035. In addition, State and federal legislation that guides the development of the Transportation 2035 Plan process is described.

PART TWO: SETTING, IMPACTS, AND MITIGATION MEASURES

Part Two describes the existing environmental setting for each of the environmental issue areas analyzed in the EIR, the potential impacts that the proposed Transportation 2035 Plan would have on these areas, and measures to mitigate the potential significant impacts identified. Each impact area is analyzed in a separate chapter, organized as follows:

- Environmental Setting;
- Significance Criteria;
- Method of Analysis;
- Summary of Impacts; and
- Impacts and Mitigation Measures.

PART THREE: ALTERNATIVES AND CEQA REQUIRED CONCLUSIONS

Chapter 3.1 includes a description of the alternatives to the proposed Transportation 2035 Plan and an assessment of their potential to achieve the Plan's objectives while reducing potentially significant adverse regional environmental impacts. *Part Three* also includes a comparison and summary of potentially significant adverse regional environmental impacts that implementation of the alternatives would have for each of the environmental impact areas. As required by CEQA, an environmentally superior alternative is identified among the alternatives analyzed. *Chapter 3.2* includes an assessment of the impacts of the proposed Transportation 2035 Plan in several subjects areas required by CEQA, including:

- Significant unavoidable impacts;
- Significant irreversible environmental changes;
- Cumulative impacts; and
- Impacts found to be not significant.

PART FOUR: BIBLIOGRAPHY AND APPENDICES

All references and persons and agencies consulted are included in the *Bibliography*. *Appendix A* includes the Notice of Preparation (NOP) of this EIR. *Appendix B* includes the Responses to the NOP (comment letters) and the Scoping Meeting Summary. *Appendix C* is the complete project list for the proposed Transportation 2035 Plan and the four alternatives studied in the EIR. *Appendix D* is a Biological Resources Summary, including species lists and a detailed regulatory setting.

TRANSPORTATION 2035 PLAN BACKGROUND

The Bay Area region consists of nine counties: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma. In a ranking of primary census statistical areas, the San Jose-San Francisco-Oakland Combined Statistical Area (CSA) population was the sixth largest in the nation in 2007, behind New York, Los Angeles, Chicago, Washington-Baltimore-Northern Virginia, and Boston CSAs.[1,2] At the start of 2008, the Department of Finance estimated the San Francisco Bay Area population at 7.3 million. According to ABAG's *Projections 2007*, only about 18 percent of the region's approximately 4.6 million acres of land is developed. Seventy-three percent of this developed land is in residential use. The Bay Area transportation network includes interstate and state freeways, county expressways, local streets and roads, bike paths, sidewalks, and a wide assortment of transit technologies (heavy rail, light rail, intercity rail, buses, trolleys and ferries).

[1] A primary census statistical area is a census defined metropolitan region that is not a component of another census defined metropolitan region. In the United States, the 719 primary census statistical areas currently defined by the United States Census Bureau include all 123 Combined Statistical Areas (CSAs) and the 596 Core Based Statistical Areas (CBSAs) that are not a component of a Combined Statistical Area.

[2] United States Census Bureau, 2007.

PROJECTED GROWTH

According to the Association of Bay Area Government's (ABAG) *Projections 2007*, the five most populous counties in 2005, in descending order, were Santa Clara, Alameda, Contra Costa, San Francisco, and San Mateo, accounting for 82 percent of the region's population. Santa Clara County is the most populous county in the Bay Area and is home to about 26 percent of the region's residents. The county's largest city, San Jose, is also the largest city in the Bay Area with a population of 943,000, or about 13 percent of the region's residents in 2005.[3] Currently, there are 15 cities in the Bay Area with more than 100,000 residents.[4]

The Bay Area's population increased by about 13 percent (760,000) from 1990 to 2000, while jobs increased by about 14 percent (430,000).[5] Between 2000 and 2005, the Bay Area population increased by another 5 percent, while jobs actually declined by 7-8 percent due to an economic downturn brought on, in part, by the "dot com bust". The highest employment numbers in 2005 were in the same five counties, though in a slightly different order: Santa Clara, Alameda, San Francisco, Contra Costa, and San Mateo; together, they accounted for 83 percent of Bay Area jobs that year. Looking ahead to 2035, ABAG projects that the Bay Area's population will grow another 27 percent from the 2005 level (nearly 2 million more residents) and employment will increase by 52 percent (1.8 million additional jobs).

PROPOSED PROJECT – TRANSPORTATION 2035 PLAN

A detailed description of the proposed Transportation 2035 Plan is included in Chapter 1.2. The proposed Transportation 2035 Plan represents the transportation policy and action statement of how the Bay Area will approach the region's transportation needs over the next 25 years. It was prepared by MTC in partnership with ABAG, Bay Area Air Quality Management District (BAAQMD), and San Francisco Bay Conservation and Development Commission (BCDC) and in collaboration with Caltrans, nine county-level Congestion Management Agencies (CMAs), over two dozen Bay Area transit operators, and numerous transportation stakeholders and the public. The purpose of the proposed Transportation 2035 Plan is to encourage and promote the safe and efficient management, operation and development of a regional intermodal transportation system that will serve the mobility needs of people and goods.

The proposed Transportation 2035 Plan is financially constrained, as defined in the past four plans, and consistent with federal planning regulations, as a set of future transportation projects and programs that can be implemented with federal, state, regional, or local revenue projected to be reasonably available over the next 25 years. It also includes illustrative transportation projects that would have benefits if additional revenues were secured in the future. For the proposed Transportation 2035 Plan, MTC's financial assumptions are based upon an examination of the historical growth trends of traditional and non-traditional revenue sources and retrospective analyses of predecessor long-range plans. A total of $226 billion in projected revenue is estimated to be available under the proposed Transportation 2035 Plan.

[3] Association of Bay Area Governments, 2007.

[4] Department of Finance, May 2008a.

[5] 1990 Census; California Economic Development Department, 2008.

Key new commitment projects funded by the $32 billion in discretionary funds include: $7 billion towards local road pavement maintenance; $6.4 billion towards transit vehicle replacement and 25 percent of the highest-rated transit assets; $6 billion for transit and roadway expansion projects; $2.2 billion toward the Transportation for Livable Communities Program; $1.6 billion toward the Freeway Performance Initiative; $400 million towards the Regional Bicycle Network; and $400 million toward the Lifeline Transportation Program.

The illustrative projects identified for the financially unconstrained element of the proposed Transportation 2035 Plan include: Dumbarton Rail, Caltrain Express Phase 2b, and Transbay Transit Center Phase 2. These projects are not fully funded and, therefore, not included in the financially constrained Transportation 2035 Plan. However, should funding become available and these projects become fully funded, they may be shifted into the financially constrained element of the plan.

ALTERNATIVES

A full description of the alternatives analyzed in this EIR and the alternative selection process is provided in *Chapter 3.1*. The alternatives are as follows:

NO PROJECT

The No Project alternative addresses the effect of not implementing the Transportation 2035 Plan. This alternative includes a set of transportation projects and programs that are in advanced planning stages and slated to go forward since they have full funding commitments. These projects are: (1) identified in the federally required Fiscal Year 2009 Transportation Improvement Program, a four-year funding program of Bay Area projects and programs, (2) not yet in the TIP but are fully funded sales tax projects authorized by voters in seven Bay Area counties, including San Francisco, Santa Clara, San Mateo, Alameda, Contra Costa, Sonoma and Marin, and (3) not yet in the TIP but fully funded through other committed funds as defined by statute or Commission policy. This alternative does not include transportation projects and programs funded by the $32 billion in uncommitted discretionary funds.

HEAVY MAINTENANCE/CLIMATE PROTECTION EMPHASIS

This alternative is financially constrained to the $220 billion projected revenue estimated to be available to the region over the next 25-years. Unlike the proposed Project, this Heavy Maintenance/Climate Protection alternative places its investment emphasis almost entirely on system maintenance and efficiency projects that support the plan goals.

This alternative maximizes the use of available discretionary funds for investments that (1) reduce shortfalls for transit and local roadway maintenance; (2) improve walkability, bicycling, transit access, and carpooling and ridesharing; (3) help local jurisdictions to plan and build housing near transit; and (4) implement public education and outreach programs to raise awareness and facilitate behavior changes that help the region to meet its climate protection goal. The set of projects and programs in this alternative is designed to reduce vehicle miles traveled and/or greenhouse gas emissions.

This alternative retains the plan expenditures for the $194 billion in committed funds because these funds are committed to specific uses by statute or Commission policy, but redirects

uncommitted discretionary revenues. Because this alternative focuses on system maintenance and efficiency, it excludes all expansion, including the Regional HOT Network and the transit and roadway expansion projects that in the proposed Project are funded in part by the $32 billion discretionary funds. As a result of the exclusion of the Regional HOT Network, the $6.1 billion in net revenue that the Regional HOT Network would generate is not available to fund corridor improvements (such as transit operating and capital needs, freeway operations, interchanges, roadway maintenance and local access improvements).

HEAVY MAINTENANCE/CLIMATE PROTECTION EMPHASIS + PRICING

This alternative reflects the same project definition as Alternative 2 (Heavy Maintenance/Climate Protection Emphasis) plus it includes applying user-based pricing strategies in order to determine how pricing might influence the performance of infrastructure investments. The pricing strategies are intended to induce changes in travel behavior by increasing the cost of driving. They include: (a) carbon tax or tax on vehicle miles driven, (b) congestion fee for using congested freeways during peak periods, and (c) increased parking charges for all trips. No net revenue is estimated to be generated from these pricing strategies, for purposes of additional investments.

To represent the carbon tax or VMT tax, gas prices are assumed to increase by 21 percent from $7.47 per gallon to $9.07 in 2035 (all in 2008 current dollars). Overall, the total auto operating cost per mile would also increase by 21 percent, from 39 cents per mile to 47 cents per mile. For the congestion fee, a charge of 25 cents per mile on congested freeways is added to freeway segments where the volume-to-capacity ratio exceeds 0.90 (very congested facilities). For the parking charge, parking costs are increased by $1.00 per hour to both peak and off-peak trips. This impacts both work and non-work trips, and has a higher impact on short trips than long trips. So, these increased parking costs will end up showing more non-motorized (bicycling and walking) trips in the pricing tests. The cumulative effect of these pricing strategies is a substantial increase in auto operating cost. This alternative aims to encourage more people to bike, walk and take transit, drive less, and produce less transportation-related greenhouse gas emissions by making it very expensive to drive.

HEAVY MAINTENANCE/CLIMATE PROTECTION EMPHASIS + LAND USE

This alternative reflects the same project definition as Alternative 2 (Heavy Maintenance/Climate Protection Emphasis) plus it includes an alternative land use forecast in order to determine how a different kind of regional growth might influence the performance of infrastructure investments. This alternative land use forecast is a policy forecast, as opposed to a purely market-driven outcome. ABAG staff produced this alternative land use forecast with the objective of balancing jobs and housing and targeting growth in existing communities and near transit. Compared to *Projections 2007*, this forecast reflects considerable shifts in regional growth away from the fringes and toward existing employment and housing centers, areas projected to have either household or employment growth, and areas with existing and/or planned transit. It also assumes fewer in-commuters from neighboring regions by accommodating 37,000 more households within the Bay Area. This alternative assumes no pricing strategy. This alternative is expected to maximize transit use and reduce auto trips and vehicle miles traveled because the land use strategy places projected population growth near existing and planned transit services and employment centers.

KEY EIR ASSUMPTIONS

In order to assess the effects of the proposed Transportation 2035 Plan, it is necessary to make assumptions about future environmental conditions at the time the Plan is fully implemented. Since implementation of the Plan would occur over 25 years, the horizon year is 2035.

Other key assumptions in the impact analysis include the following:

- The base year or existing conditions for the analysis is 2006, as that is the year for which MTC has the most current validated travel demand model for the transportation network. For comparisons where 2006 data are not available, the closest available year (typically 2005 or 2007) is used.
- ABAG's adopted *Projections 2007* forms the basis for developing future baseline population and employment scenarios for the proposed Project. See *Chapter 2.11*: *Growth Inducing Effects* for further details on growth projections.
- This analysis does not consider phasing of improvements or interim stages of the proposed Transportation 2035 Plan between 2005 and 2035, as the purpose of the analysis is to evaluate the Plan as a whole.
- As a program-level EIR, individual project impacts are not addressed; rather, this analysis focuses on the aggregate impacts of the Plan that may be regionally significant.

CUMULATIVE IMPACT ASSUMPTIONS

Some future impacts on the environment are not under the influence of MTC and occur for reasons unrelated to Transportation 2035 Plan investments. The term "cumulative impact", as defined in the CEQA Guidelines (Section 15355), "refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." Due to the size of planning area, this EIR uses a regional projections approach to assess the cumulative impacts of the proposed Transportation 2035 Plan. Where possible, this EIR distinguishes between the impacts of the Transportation 2035 Plan investment program as a whole and the independent impacts of forecast population and employment growth, which the projects and programs of the proposed Transportation 2035 Plan will serve. However, the transportation, air quality, greenhouse gases, and energy analyses evaluate the effects of the proposed Project assuming projected population and employment growth. Thus, the impact analyses for these four issue areas are cumulative for CEQA purposes.

PROJECT IMPACTS

The analysis emphasizes the impacts of the proposed Transportation 2035 Plan as a complete program, rather than as detailed analysis of the individual transportation improvements in the Plan. Individual improvements must still independently comply with the requirements of CEQA. As required by CEQA, this EIR identifies three types of impacts:

- Short-term impacts;
- Long-term impacts; and
- Cumulative impacts.

In some instances the cumulative impacts outlined in this EIR do not so much result from the transportation improvements in the Transportation 2035 Plan as from the growth these projects are intended to serve. Table S-1 summarizes the impact conclusions and recommended mitigation measures identified in this EIR. The impacts are organized by environmental impact area in the order in which they appear in *Part Two*.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The CEQA Guidelines require each EIR to identify the environmentally superior alternative among the alternatives analyzed. If the No Project alternative is identified as the environmentally superior alternative, then the EIR must identify another alternative as environmentally superior among the alternatives analyzed.

There are tradeoffs among the various issue areas analyzed for the alternatives. The alternatives also would result in varying degrees of success at achieving the proposed Project objectives.

The main goals of the Plan were listed earlier in the *Executive Summary*. The performance objectives designed to measure the region's progress towards meeting those goals include: reducing vehicle miles traveled, congestion and carbon dioxide and particulate matter emissions, and collisions/fatalities; decreasing transportation and housing costs for low-income families; and improving system maintenance. Therefore, an alternative that performs substantially worse than the proposed Project with respect to meeting the plan goals would not achieve even the basic objectives of the proposed Project.

According to the environmental analysis, the Heavy Maintenance/Climate Protection Emphasis + Pricing alternative and the Heavy Maintenance/Climate Protection + Land Use alternative, perform better than the proposed Project overall, while the No Project and the Heavy Maintenance/Climate Protection Emphasis alternative perform comparably or slightly worse than the proposed Project. This preliminary finding does not account for legal restrictions and statutory authority.

Though both the Heavy Maintenance/Climate Protection Emphasis + Land Use alternative and Heavy Maintenance/Climate Protection + Pricing alternative perform very well, this CEQA analysis concludes that **the Heavy Maintenance/Climate Protection Emphasis + Pricing alternative is the environmentally superior alternative,** primarily because:

- It demonstrated superior performance in Energy and Climate Change issue areas which are of critical concern to the Bay Area today;
- It has more potential flexibility of applying and adjusting pricing controls to current needs;
- It can, in theory, be applied "immediately" and begin realizing environmental benefits sooner than land use changes; and
- It has a stronger potential market influence on new "green" technologies than land use changes.

In terms of objectives, the Heavy Maintenance/Climate Protection Emphasis alternative with the pricing and land use variations are both likely to meet most of the basic project objectives of the

proposed Project. However, despite this favorable evaluation, there are some important unanswered questions about the feasibility of each of these alternatives:

- The performance of the Heavy Maintenance/Climate Protection Emphasis + Land Use alternative is predicated on hypothetical land use assumptions that cannot be realized without substantial governmental intervention, through regulation or new incentives to create public funding for housing and infrastructure improvements and increased levels of public services and facilities which would be needed by the proposed intensification of residential development in the urban core. The regional agencies (MTC, ABAG, BCDC, and BAAQMD) do not currently have the power to enforce the assumed land use outcomes; local governments currently have authority over local land use decisions. Unresolved conflicts with local General Plans, "community character" concerns, and local economic development objectives also would affect realization of these land use assumptions.
- The performance of the Heavy Maintenance/Climate Protection Emphasis + Pricing alternative also presumes that regional agencies have certain authority to impose new pricing strategies, most of which are subject to legislative or voter approval. For those strategies that require legislative or voter approval, any economic downturn reduces public support for "taxing" schemes that intentionally raise the price of driving, particularly in the short term before households can locate closer to urban centers and transit. Though the Regional HOT Network will require new legislative authority to implement in the Bay Area, the magnitude of the legislative changes required for the aggressive pricing strategies proposed under this alternative are greater and possibly more contentious than changes required for the HOT Network.

While there were compelling reasons to evaluate both of these alternatives in full through this EIR, the feasibility issues indicate that MTC and its partners lack the authority to implement them.

AREAS OF KNOWN CONTROVERSY

Some areas of known controversy related to the proposed Transportation 2035 Plan and EIR include:

- Justifying the appropriateness, effectiveness, and equity of the Regional HOT Network included in the proposed Project;
- Determining how to reduce the public health impacts of particulate matter, primarily from diesel emissions associated with activities at the Port of Oakland, and establishing implementation responsibilities;
- Choosing the most appropriate and transparent approach to assessing and mitigating loss of Prime Farmland and Farmland of Statewide Importance at the program level;
- Determining the best analytical approach to evaluating greenhouse gas emissions and associated sea level risk impacts of the proposed Project, and the relationship between selected significance criteria, significance conclusions, and proposals for mitigation measures; and

- Identifying opportunities for "advance" mitigation designed to be implemented at a countywide or other regional level, rather than relying on project-level mitigation only.

This EIR acknowledges and attempts to address these known controversies as reported during the NOP scoping period and ongoing agency consultation.

SUMMARY TABLE OF IMPACTS AND MITIGATION MEASURES

Table S-1 starting on the following page summarizes impacts, mitigation measures, and significance conclusions after mitigation (far right column), by issue area. If a criterion was evaluated and no adverse impact was found, it is not summarized here. For more details, please see *Part Two: Settings, Impacts, and Mitigation Measures.*

Table S-1: Summary of Impacts and Mitigation

	Impact	*Mitigation Measures*	*Significance After Mitigation*
Transportation			
2.1-1	Accessibility to jobs by both auto and transit modes for all time intervals of 15, 30 and 45 minutes would improve compared to existing conditions.	None required.	*Beneficial*
2.1-2	Vehicle miles traveled at Level of Service F would increase for both freeways and expressways and arterial facilities when compared to existing conditions.	**2.1-2(a)** MTC, ABAG, BCDC and BAAQMD—as represented through the Joint Policy Committee (JPC) which coordinates the regional planning efforts of the four agencies—shall work to leverage existing funds (including the $2.2 billion in funds committed in the proposed Transportation 2035 Plan for the Transportation for Livable Communities Program) and seek additional funds to provide financial incentives to local governments that volunteered to designate their communities as Priority Development Areas (PDAs) through the FOCUS program and commit to build higher density residential and mixed use development near transit. **2.1-2(b)** MTC, in partnership with ABAG, BCDC, BAAQMD, local government and employers who would like to participate, will seek opportunities to conduct research on and promote value pricing of parking and other innovative parking strategies, for example: • Employer parking "cash out" programs, which allow employees to forego a parking spot in favor of cash or a subsidized transit pass; • Residential parking "opt-out" programs, which reduce city parking requirements in favor of developer funded cash to residents and/or transit passes, carshare membership, bicycle rentals, or alternative modes; • Local parking self-financing programs, which price parking to fund transit passes, alternative modes, and/or provide cash directly to workers and residents; • "Green certification" of local parking policy regulations aimed at reducing vehicle miles traveled; and • Technical assistance programs to remove barriers that prevent local governments from implementing parking pricing programs. **2.1-2(c)** MTC shall advocate to state and federal legislators for new incentive funding for local governments to take steps to encourage higher density and mixed use developments near transit, including strategies such as (a) revising land use plans and zoning codes to remove barriers that may prevent such development; or (b) providing incentives to developers through density bonuses or expedited development review.	*Significant Cumulative Impact, Contribution Not Cumulatively Considerable*
2.1-3	Average weekday vehicle miles travelled per capita would increase slightly compared to existing conditions.	None required.	*Less than significant*

Table S-1: Summary of Impacts and Mitigation

	Impact	*Mitigation Measures*	*Significance After Mitigation*
Air Quality			
2.2-1	Construction-related emissions of criteria pollutants could increase due to the construction of projects in the proposed Project.	As project sponsors prepare the environmental review document for their individual project pursuant to CEQA/NEPA and prior to environmental certification, project sponsors shall consider adopting appropriate measures that would minimize or eliminate cumulatively considerable environmental impacts pursuant to CEQA/NEPA. MTC shall be provided with status reports of compliance with mitigation measures pursuant to MTC Resolution 1481, Revised. Mitigation measures to reduce construction-related air quality impacts that shall be considered by project sponsors and decision-makers may include, but are not limited to, those described below. **2.2(a)** Typical mitigation measures that can be considered by project sponsors include: • Apply water or dust suppressants to exposed earth surfaces to control emissions at least twice daily; • All trucks hauling dirt, sand, soil, or other loose materials off-site shall be covered or wetted or shall maintain at least two feet of freeboard (i.e. minimum vertical distance between the top of the load and the top of the trailer); • All excavating and grading activities shall cease during periods of high winds; • All construction roads that have high traffic volumes, shall be surfaced with base material or decomposed granite, or shall be paved or otherwise be stabilized; • Public streets shall be cleaned, swept or scraped at frequent intervals or at least three times a week or once a day if visible soil material has been carried onto adjacent public roads (no mechanical "dry" sweeping shall be allowed); • Construction equipment shall be visually inspected prior to leaving the site and loose direct dirt shall be washed off with wheel washers as necessary; • Paving or water or non-toxic soil stabilizers shall be applied as needed to reduce off-site transport of fugitive dust from all unpaved access roads, parking and staging areas and other unpaved surfaces; • Traffic speeds on all unpaved surfaces shall not exceed 15 mph; • Low sulfur or other alternative fuels shall be used in construction equipment where feasible; • Idling time of construction vehicles and equipment shall not exceed five (5) minutes; • Construction vehicles shall be properly maintained and tuned; • Deliveries related to construction activities that affect traffic flow shall be scheduled during off-peak hours (e.g., 10:00 A.M. and 3:00 P.M.) and coordinated to achieve consolidated truck trips. When the movement of construction materials and/or equipment impacts traffic flow, temporary traffic control shall be provided to improve traffic flow (e.g., flag person); • To the extent possible, construction activity shall utilize electricity from power poles rather than temporary diesel power generators and/or gasoline power generators;	*Significant*

Table S-1: Summary of Impacts and Mitigation

	Impact	*Mitigation Measures*	*Significance After Mitigation*
		• Hydroseed or apply non-toxic soil stabilizers to inactive construction areas; • Install sandbags or other erosion control measures to prevent silt run-off to public roadways; • Install wind breaks, or plant trees/vegetative wind breaks at windward side(s) of construction areas; • Maintain on-site truck loading zones; • Configure on-site construction parking to minimize traffic interference and to ensure emergency vehicle access; • Provide temporary traffic control during all phases of construction activities to improve traffic flow; • During construction, replace ground cover in disturbed areas as quickly as possible; • During the period of construction, install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off trucks and any equipment leaving the site each trip; • Employ a balanced cut/fill ration on construction sites, thus reducing haul truck trip emissions; • Construction sites/site operator shall comply with Bay Area Air Quality Management District Regulation 6, Rule 1- Particulate Matter; • Use an emissions calculator in the planning of every construction project that uses the proposed equipment fleet and hours of use to project reactive organic gases, nitrogen oxides, particulate matter, and carbon dioxide emissions, then quantify the reductions achievable through the use of cleaner/newer equipment; and • All off-road construction vehicles must be alternative fuel vehicles, or diesel-powered vehicles with the most recent CARB-certified tier or better engines or retrofitted/repowered to meet equivalent emissions standards.	
2.2-2	Emissions of ROG, NOx, and CO would decrease substantially compared to existing conditions.	None required.	*Beneficial*
2.2-3	Implementation of Transportation 2035 Plan projects, combined with projected regional growth, would result in increased emissions of PM10 and PM2.5 over existing conditions.	**2.2(b)** MTC and BAAQMD, in partnership with ARB and other partners who would like to participate, shall work to leverage existing air quality and transportation funds and seek additional funds to continue to implement the BAAQMD's Lower-Emission School Bus Program (LESBP) to retrofit older diesel school buses with emission control devices and replace older school buses with clean school buses, and to develop and implement other similar programs aimed at retrofits and replacements of heavy duty fleet vehicles. **2.2(c)** MTC and BAAQMD, in partnership with the Port of Oakland, ARB, and other partners who would like to participate, shall work together to identify, prioritize and implement actions beyond those identified in the Statewide Goods Movement Emission Reduction Plan to reduce diesel PM and other air emissions. **2.2(d)** MTC and BAAQMD, in partnership with the Port of Oakland, ARB, and other partners who would like to participate, shall work together to secure incentive funding that may be available through the Carl Moyer Memorial Air Quality Standards Attainment Program to reduce port-related emissions. **2.2(e)** MTC and BAAQMD, in partnership with the Port of Oakland, ARB, and other partners who would like to participate, shall work together to secure Proposition 1B Goods Movement Emission Reduction Program funds to invest in Bay Area related programs. These funds directly support early and accelerated diesel PM reduction programs and can help ease the transition into compliance with adopted and	*Significant Cumulative Impact, Contribution Not Cumulatively Considerable*

Table S-1: Summary of Impacts and Mitigation

	Impact	*Mitigation Measures*	*Significance After Mitigation*
		proposed ARB regulations. **2.2(f)** MTC and BAAQMD, in partnership with the Port of Oakland, ARB, and other partners who would like to participate, shall work together to develop and seek resources for the San Francisco Bay Area Green Ports Initiative, which is a program to reduce air pollution from trucks, ships and other equipment associated with Bay Area port operations.	
2.2-4	Emissions of diesel particulate matter, 1, 3-butadiene, and benzene (toxic air contaminants) would decrease substantially compared to existing conditions.	None required.	*Beneficial*
Land Use and Housing			
2.3-1	Implementation of the proposed Transportation 2035 Plan could convert farmland, including prime agricultural land designated by the State of California, to transportation use.	**2.3(a)** As project sponsors prepare the environmental review document for their individual project pursuant to CEQA/NEPA and prior to environmental certification, project sponsors shall consider adopting appropriate measures that would minimize or eliminate cumulatively considerable environmental impacts pursuant to CEQA/NEPA. MTC shall be provided with status reports of compliance with mitigation measures pursuant to MTC Resolution 1481, Revised. Mitigation measures to reduce impacts on farmlands that shall be considered by project sponsors and decision-makers may include, but are not limited to, those described below. • Corridor realignment, where feasible, to avoid farmland, especially Prime Farmland; • Conservation easements on land at least equal in quality and size as partial compensation for the direct loss of agricultural land; • Abiding by the proper notification provisions of the Williamson Act when it appears that land enrolled in a Williamson Act contract may be required for a public use, is acquired, the original transportation improvement for the acquisition is changed, or the land acquired is not used for the improvement; • If a Williamson Act contract is terminated, the Department of Conservation recommends a ratio greater than 1:1 of land equal in quality be set aside in a conservation easement; • Instituting new protection of farmland in the project area or elsewhere in the County through the use of less than permanent long-term restrictions on use, such as 20-year Farmland Security Zone contracts (Government Code Section 51296 et seq.) or 10-year Williamson Act contracts (Government Code Section 51200 et seq.); • Mitigation fees that support the commercial viability of the remaining agricultural land in the project area, County, or region through a mitigation bank that invests in agricultural infrastructure, water supplies, marketing, etc; • Minimize severance of agricultural land by constructing underpasses and overpasses at reasonable intervals to provide property access; • Agricultural enhancement investments such as supporting farmer education on organic and sustainable practices, assisting with organic soil amendments for improved production, and upgrading irrigation systems for water conservation; • Berms, buffer zones, setbacks, and fencing to reduce use conflicts between transportation facilities and farming uses and to protect the functions of farmland; and • Other conservation tools available from the California Department of Conservation's Division of Land Resource Protection.	*Significant*

Table S-1: Summary of Impacts and Mitigation

	Impact	*Mitigation Measures*	*Significance After Mitigation*
2.3-2	Implementation of the proposed Transportation 2035 Plan could disrupt or displace existing land uses, neighborhoods, and communities in the short term.	**2.3(b)** As project sponsors prepare the environmental review document for their individual project pursuant to CEQA/NEPA and prior to environmental certification, project sponsors shall consider adopting appropriate measures that would minimize or eliminate cumulatively considerable environmental impacts pursuant to CEQA/NEPA. MTC shall be provided with status reports of compliance with mitigation measures pursuant to MTC Resolution 1481, Revised. Mitigation measures to reduce short-term (often construction-related) disruption or displacement of existing land uses, specifically residential, commercial, or urban open space impacts that shall be considered by project sponsors and decision-makers may include, but are not limited to, those described below. • Berms and fencing to reduce conflicts between transportation facilities and existing uses. • Regulate construction operations on existing facilities to minimize traffic disruptions and detours, and to maintain safe traffic operations. • Ensure construction operations are limited to regular business hours where feasible. • Control construction dust and noise. • Control erosion and sediment transport in stormwater runoff from construction sites. Additional applicable mitigation measures are listed under the short-term construction-related impact in *Chapter 2.2: Air Quality,* and are included here by reference.	*Significant*
2.3-3	Transportation improvements in the proposed Transportation 2035 Plan have the potential to cause long-term community disruption.	**2.3(c)** As project sponsors prepare the environmental review document for their individual project pursuant to CEQA/NEPA and prior to environmental certification, project sponsors shall consider adopting appropriate measures that would minimize or eliminate cumulatively considerable environmental impacts pursuant to CEQA/NEPA. MTC shall be provided with status reports of compliance with mitigation measures pursuant to MTC Resolution 1481, Revised. Mitigation measures to reduce long-term disruption or displacement of existing communities that shall be considered by project sponsors and decision-makers may include, but are not limited to, those described below. • Berms and fencing to reduce conflicts between transportation facilities and existing uses; • Pedestrian and bike connectors across widened sections of roadway; • Sidewalk, signal, and signage treatments to improve the pedestrian connectivity across widened sections of roadway; • Corridor realignment, where feasible, to avoid land use disruption; and • Buffer zones and setbacks to protect the continuity of land uses. **2.3(d)** Through regional programs such as the Transportation for Livable Communities Program, Regional Bicycle Program, etc., MTC shall continue to support locally sponsored traffic calming and alternative transportation initiatives, such as paths, trails, overcrossings, bicycle plans, and the like that foster improved neighborhoods and community connections.	*Less than significant*
2.3-4	Implementation of the proposed Transportation 2035 Plan may conflict with existing local plans.	None required.	*Less than significant*

Table S-1: Summary of Impacts and Mitigation

	Impact	*Mitigation Measures*	*Significance After Mitigation*
2.3-5	Concurrent implementation of the proposed Transportation 2035 Plan and forecast development would result in cumulatively considerable conversion of Prime and Important farmlands to urban use throughout the Bay Area.	**2.3(e)** MTC shall continue to participate in and promote the efforts of the multi-agency FOCUS project, which is intended to coordinate regional growth efforts to use land more efficiently, optimize transportation and other infrastructure investments in existing communities that focus new development near existing transit, preserve open space, etc. In this way, MTC, in partnership with regional agencies such as ABAG and advocacy groups such as Greenbelt Alliance and TransForm (formerly TALC), can pursue the enhanced coordination of local land use planning with transportation investments in the proposed Transportation 2035 Plan.	*Significant Cumulative Impact, Contribution Cumulatively Considerable*
Energy			
2.4-1	Implementation of the proposed Transportation 2035 Plan, combined with regional growth and improvements in vehicle technology, is likely to result in decreased transportation-related energy consumption compared to existing conditions.	None required.	*Beneficial*
Greenhouse Gases and Climate Change			
2.5-1	Implementation of Transportation 2035 Plan projects, combined with forecast regional growth, would contribute to GHG emissions.	**2.5(a)** MTC shall commit to working with ABAG, BCDC, and BAAQMD, through the JPC, to develop a set of "green construction" policies and best practices that encourage use of lowest emitting construction equipment and fuels (e.g., diesel-powered vehicles meeting the most current CARB-certified tier or better engines). **2.5(b)** As project sponsors prepare the environmental review document for their individual project pursuant to CEQA/NEPA and prior to environmental certification, project sponsors shall consider adopting appropriate measures that would minimize or eliminate cumulatively considerable environmental impacts pursuant to CEQA/NEPA. MTC shall be provided with status reports of compliance with mitigation measures pursuant to MTC Resolution 1481, Revised. Mitigation measures to reduce impacts related to greenhouse gas emissions that shall be considered by project sponsors and decision-makers may include, but are not limited to, those described below. • Adopt and implement "green building" standards for any public buildings (transit stations, ferry buildings, maintenance facilities, etc) funded by MTC to achieve a LEED™ Silver or better or equivalent certification. • Use light colored pavement for solar reflectivity and reduced heat island effects wherever construction costs are no higher than 5 or 10 percent of the least cost alternative paving material. • Install solar photovoltaic systems or use of renewable sources of energy for transportation buildings and maintenance facilities, wherever "feasible", as the term is defined in CEQA. • Plant shade trees as part of specified types of construction projects or wherever	*Significant Cumulative Impact, Contribution Not Cumulatively Considerable*

Table S-1: Summary of Impacts and Mitigation

	Impact	*Mitigation Measures*	*Significance After Mitigation*
		construction results in loss of tree cover, because trees have carbon sequestration capacity. • Establish or update minimum standards for construction management, including specifying minimum content for recycled products in aggregate, concrete, etc. and construction waste management. • Establish standards or incentives for light pollution reduction related to street lighting and lighting of transportation and parking facilities to promote low-energy use for permanent as well as temporary fixtures. See also *Chapter 2.1: Transportation* and *Chapter 2.2: Air Quality* which contain mitigation that would help to further reduce greenhouse gas emissions from transportation projects.	
2.5-2	Transportation 2035 Plan projects, combined with future forecast development in the region, have the potential to result in a cumulatively considerable increase in exposure to risk related to sea level rise.	**2.5(c)** MTC will work with BCDC, in partnership with the regional agencies and other partners who would like to participate, to conduct a vulnerability assessment for the region's transportation infrastructure and identify the appropriate adaptation strategies to protect those transportation resources that are likely to impacted and are a priority for the region to protect. This assessment should build off of but not duplicate current BCDC efforts and research underway. **2.5(d)** As project sponsors prepare the environmental review document for their individual project pursuant to CEQA/NEPA and prior to environmental certification, project sponsors shall consider adopting appropriate measures that would minimize or eliminate cumulatively considerable environmental impacts pursuant to CEQA/NEPA. MTC shall be provided with status reports of compliance with mitigation measures pursuant to MTC Resolution 1481, Revised. Mitigation measures to reduce impacts related to sea level rise that shall be considered by project sponsors and decision-makers may include, but are not limited to, those described below. • Engineering designs for new transportation projects shall demonstrate that they have factored in sea level rise and potential increases in storm surge inundation, and are budgeting for and already incorporate mitigation measures to adapt to projected sea level rise and storm surge. These mitigation measures should consider the effects on Bay and coastal zone resources and avoid or reduce future risk to the infrastructure and the region. • For those transportation projects that do not involve new infrastructure but increase capacity of existing infrastructure, project sponsors shall demonstrate that they have investigated the vulnerability of their existing facilities to sea level rise and storm surge inundation and have budgeted for mitigation measures to adapt to projected sea level rise and storm surge. These mitigation measures should consider the effects on Bay and coastal zone resources and avoid or reduce future risk to the infrastructure and the region.	*Significant Cumulative Impact, Contribution Not Cumulatively Considerable*
Noise			
2.6-1	Construction of the proposed Transportation 2035 Plan projects would have short-term noise impacts on surrounding areas.	None required.	*Less than significant*
2.6-2	Transportation 2035 Plan projects could result in noise levels that approach or	As project sponsors prepare the environmental review document for their individual project pursuant to CEQA/NEPA and prior to environmental certification, project sponsors shall consider adopting appropriate measures that would minimize or eliminate cumulatively considerable environmental impacts pursuant to CEQA/NEPA.	*Less than significant*

Table S-1: Summary of Impacts and Mitigation

	Impact	*Mitigation Measures*	*Significance After Mitigation*
	exceed the FHWA Noise Abatement Criteria or could cause noise levels to increase by 3 dBA or more when compared to existing conditions.	MTC shall be provided with status reports of compliance with mitigation measures pursuant to MTC Resolution 1481, Revised. Mitigation measures to reduce noise impacts that shall be considered by project sponsors and decision-makers may include, but are not limited to, those described below. **2.6(a)** Adjustments to proposed roadway or transit alignments to reduce noise levels in noise sensitive areas. For example, below-grade roadway alignments can effectively reduce noise levels in nearby areas. **2.6(b)** Techniques such as landscaped berms, dense plantings, reduced-noise paving materials, and traffic calming measures in the design of their transportation improvements. **2.6(c)** Contributing to the insulation of buildings or construction of noise barriers around sensitive receptor properties adjacent to the transportation improvement.	
2.6-3	Implementation of the proposed Transportation 2035 Plan could result in increased noise and groundborne vibration related to transit operations.	Mitigation measures 2.6(a) through 2.6(c) above are considered appropriate for bus transit noise impacts. In addition to those mitigation measures, the following additional measures are provided to reduce Impact 2.6-3 as it pertains to rail transit: **2.6(d)** Design approaches to reduce noise and vibration impacts of rail transit, such as vibration isolation of track segments, use of continuously welded track to minimize wheel noise, resilient wheels, vehicle skirts, wheel truing, rail grinding, undercar absorption, or vehicle horn loudness and pitch adjustments. **2.6(e)** Operational changes to reduce noise impacts of rail transit, such as assisting local jurisdictions in pursuing Quiet Zones.	*Less than significant*
2.6-4	The proposed Transportation 2035 Plan, combined with traffic related to projected regional population and employment growth, could result in a cumulatively considerable increase in overall noise levels along some travel corridors.	Mitigation measures 2.6(a) through 2.6(e) above help to reduce this cumulative impact.	*Significant Cumulative Impact, Contribution Cumulatively Considerable*
Geology			
2.7-1	Seismic activity resulting in surface rupture, ground shaking, liquefaction, landslides or tsunamis could damage existing and proposed transportation infrastructure and pose public safety risks.	**2.7(a)** As project sponsors prepare the environmental review document for their individual project pursuant to CEQA/NEPA and prior to environmental certification, project sponsors shall consider adopting appropriate measures that would minimize or eliminate cumulatively considerable environmental impacts pursuant to CEQA/NEPA. MTC shall be provided with status reports of compliance with mitigation measures pursuant to MTC Resolution 1481, Revised. Mitigation measures to reduce significant seismic impacts, as determined by a State licensed geotechnical professional, that shall be considered by project sponsors and decision-makers may include, but are not limited to, those described below. • Consider seismicity of the site, soil response at the site, and dynamic characteristics of the structure in the seismic design of the project, in compliance with the California Building Code and Caltrans' standards for construction, or other more stringent standards, as applicable. • Facilitate geotechnical analyses as necessary within construction areas to ascertain soil types and local faulting prior to preparation of project designs.	*Less than significant*

Table S-1: Summary of Impacts and Mitigation

	Impact	*Mitigation Measures*	*Significance After Mitigation*
		• For projects located within Alquist-Priolo Earthquake Fault Zones, prepare recommendations for the mitigation and reduction of hazards in accordance with California Geological Survey Guidelines for Evaluation the Hazard of Earthquake Fault Rupture. • Avoid or stabilize landslide areas and potentially unstable slopes wherever feasible. • For projects located within liquefaction or earthquake-induced landslide Seismic Hazard Zones, prepare recommendations for the mitigation and reduction of hazards in accordance with California Geological Survey Guidelines for Evaluating and Mitigating Seismic Hazards Special Publication 117. • For projects adjacent to the Bay and/or Pacific Ocean, evaluate tsunami inundation risks and implement, where necessary and feasible, precautionary measures, such as specifying final roadbed elevations greater than the expected height of a tsunami with a given return frequency.	
2.7-2	Highway and rail construction could require significant earthwork and road cuts, which could increase short-term and long-term soil erosion potential.	**2.7(b)** As project sponsors prepare the environmental review document for their individual project pursuant to CEQA/NEPA and prior to environmental certification, project sponsors shall consider adopting appropriate measures that would minimize or eliminate cumulatively considerable environmental impacts pursuant to CEQA/NEPA. MTC shall be provided with status reports of compliance with mitigation measures pursuant to MTC Resolution 1481, Revised. Mitigation measures that shall be considered by project sponsors and decision-makers may include, but are not limited to, Best Management Practices to reduce soil erosion by water and wind. These could include temporary cover of exposed, engineered slopes, or silt fencing. Where required, based on affected area (greater than one acre), agencies shall adhere to the requirements of the NPDES General Construction Permit and associated SWPPP.	*Less than significant*
2.7-3	Highway and rail construction could require significant earthwork and road cuts, which could destabilize existing slopes causing landslides or slope failure.	**2.7(c)** As project sponsors prepare the environmental review document for their individual project pursuant to CEQA/NEPA and prior to environmental certification, project sponsors shall consider adopting appropriate measures that would minimize or eliminate cumulatively considerable environmental impacts pursuant to CEQA/NEPA. MTC shall be provided with status reports of compliance with mitigation measures pursuant to MTC Resolution 1481, Revised. Mitigation measures that shall be considered by project sponsors and decision-makers may include, but are not limited to, ensuring that project designs provide adequate slope drainage and appropriate landscaping to minimize the occurrence of slope instability and erosion. Road cuts shall be designed to maximize the potential for revegetation. Project sponsors shall ensure that local grading ordinances and building code requirements are strictly adhered to where appropriate.	*Less than significant*
2.7-4	Projects built on highly compressible or expansive soils could become damaged and weakened over time.	**2.7(d)** As project sponsors prepare the environmental review document for their individual project pursuant to CEQA/NEPA and prior to environmental certification, project sponsors shall consider adopting appropriate measures that would minimize or eliminate cumulatively considerable environmental impacts pursuant to CEQA/NEPA. MTC shall be provided with status reports of compliance with mitigation measures pursuant to MTC Resolution 1481, Revised. Mitigation measures that shall be considered by project sponsors and decision-makers may include, but are not limited to, ensuring that geotechnical investigations be conducted by qualified professionals (registered civil and geotechnical engineers, registered engineering geologists) to identify the potential for differential settlement and expansive soils and to recommend corrective measures, such as structural reinforcement and replacing soil with engineered fill. Recommended measures shall be incorporated into project designs.	*Less than significant*

Table S-1: Summary of Impacts and Mitigation

	Impact	*Mitigation Measures*	*Significance After Mitigation*
2.7-5	The proposed Transportation 2035 Plan, combined with regional population growth, would result in an increased risk of exposure of people and property to geologic hazards.	Same as those outlined above.	*Significant Cumulative Impact, Contribution Not Cumulatively Considerable*
Water Resources			
2.8-1	Construction of Transportation 2035 Plan projects could adversely affect water quality and drainage patterns in the short-term due to erosion and sedimentation.	**2.8(a)** As project sponsors prepare the environmental review document for their individual project pursuant to CEQA/NEPA and prior to environmental certification, project sponsors shall consider adopting appropriate measures that would minimize or eliminate cumulatively considerable environmental impacts pursuant to CEQA/NEPA. MTC shall be provided with status reports of compliance with mitigation measures pursuant to MTC Resolution 1481, Revised. Mitigation measures to reduce impacts on water resources that shall be considered by project sponsors and decision-makers may include, but are not limited to, those described below. Project sponsors shall prepare and implement, as necessary, a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the SWRCB's General Construction Permit. The SWPPP shall be consistent with the Manual of Standards for Erosion and Sedimentation Control by the Association of Bay Area Governments, the California Stormwater Quality Association (CASQA), Stormwater Best Management Practice Handbook for Construction, policies and recommendations of the local urban runoff program (city and/or county), and the recommendations of the RWQCB. Implementation of the SWPPP shall be enforced by inspecting agencies during the construction period via appropriate options such as citations, fines, and stop-work orders. Typical components of a SWPPP would include the following: • Excavation and grading activities shall be scheduled for the dry season only (April 15 to October 15), to the extent feasible. This will reduce the chance of severe erosion from intense rainfall and surface runoff, as well as the potential for soil saturation in swale areas. • If excavation occurs during the rainy season, storm runoff from the construction area shall be regulated through a stormwater management/erosion control plan that may include temporary on-site silt traps and/or basins with multiple discharge points to natural drainages and energy dissipaters. Stockpiles of loose material shall be covered and runoff diverted away from exposed soil material. If work is stopped due to rain, a positive grading away from slopes shall be provided to carry the surface runoff to areas where flow can be controlled, such as the temporary silt basins. Sediment basin/traps shall be located and operated to minimize the amount of offsite sediment transport. Any trapped sediment shall be removed from the basin or trap and placed at a suitable location on-site, away from concentrated flows, or removed to an approved disposal site. • Temporary erosion control measures shall be provided until perennial revegetation or landscaping is established and can minimize discharge of sediment into nearby waterways. For construction within 500 feet of a water body, fiber rolls and/or gravel bags shall be placed upstream adjacent to the water body.	*Less than significant*

Table S-1: Summary of Impacts and Mitigation

Impact	*Mitigation Measures*	*Significance After Mitigation*
	• After completion of grading, erosion protection shall be provided on all cut-and-fill slopes. Revegetation shall be facilitated by mulching, hydroseeding, or other methods and shall be initiated as soon as possible after completion of grading and prior to the onset of the rainy season (by October 15). • Permanent revegetation/landscaping shall emphasize drought-tolerant perennial ground coverings, shrubs, and trees to improve the probability of slope and soil stabilization without adverse impacts to slope stability due to irrigation infiltration and long-term root development. • BMPs selected and implemented for the project shall be in place and operational prior to the onset of major earthwork on the site. The construction phase facilities shall be maintained regularly and cleared of accumulated sediment as necessary. • Hazardous materials such as fuels and solvents used on the construction sites shall be stored in covered containers and protected from rainfall, runoff, and vandalism. A stockpile of spill cleanup materials shall be readily available at all construction sites. Employees shall be trained in spill prevention and cleanup, and individuals should be designated as responsible for prevention and cleanup activities. SWPPP(s) for projects immediately adjacent to or within drainages also will have to incorporate the following additional erosion control minimum criteria: • Construction equipment shall not be operated in flowing water, except as may be necessary to construct crossings or barriers. • Stream diversion structures shall be designed to preclude accumulation of sediment. If this is not feasible, an operation plan shall be developed to prevent adverse downstream effects from sediment discharges. • Where working areas are adjacent to or encroach on live streams, barriers shall be constructed that are adequate to prevent the discharge of turbid water in excess of specified limits. The discharged water shall not exceed 110 percent of the ambient stream turbidity of the receiving water, if the receiving water is a flowing stream with turbidity greater than 50 nephelometric turbidity unit (NTU), or 5 NTU above ambient turbidity for ambient turbidities that are less than or equal to 40 NTU. If the water is discharged to a dry streambed, the discharged water shall not exceed 50 NTU. • Material from construction work shall not be deposited where it could be eroded and carried to the stream by surface runoff or high stream flows. • Riparian vegetation shall be removed only when absolutely necessary.	
2.8-2 Transportation 2035 Plan projects could adversely affect water resources in the long term by reducing permeable surfaces, which could result in additional runoff and erosion, degrade water quality in receiving waters, decrease groundwater recharge, or alter drainage patterns.	**2.8(b)** As project sponsors prepare the environmental review document for their individual project pursuant to CEQA/NEPA and prior to environmental certification, project sponsors shall consider adopting appropriate measures that would minimize or eliminate cumulatively considerable environmental impacts pursuant to CEQA/NEPA. MTC shall be provided with status reports of compliance with mitigation measures pursuant to MTC Resolution 1481, Revised. Mitigation measures to reduce impacts on water resources that shall be considered by project sponsors and decision-makers may include, but are not limited to, requiring projects to comply with design guidelines established in the Bay Area Stormwater Management Agencies Association's (BASMAA) *Using Start at the Source to Comply with Design Development Standards* and the *California Storm Water Best Management Practice Handbook for New Development and Redevelopment* to minimize both increases in the volume and rate of stormwater runoff, and the amount of pollutants entering the storm drain system. Typical mitigation measures shall include the following:	*Less than significant*

Table S-1: Summary of Impacts and Mitigation

Impact	*Mitigation Measures*	*Significance After Mitigation*
	Surface Water • Drainage of roadway and parking lot runoff shall, wherever possible, be designed to run through grass median strips, contoured to provide adequate storage capacity and to provide overland flow, detention, and infiltration before it reaches culverts. Detention basins and ponds, aside from controlling runoff rates, can also remove particulate pollutants through settling. Facilities such as oil and sediment separators or absorbent filter systems shall therefore be designed and installed within the storm drainage system to provide filtration of stormwater prior to discharge and reduce water quality impacts whenever feasible. For example, runoff shall be filtered through mechanical or natural filtration systems such as pre-manufactured oil water separators or through natural processes such as bioswales and settlement ponds to remove oil and grease prior to discharge. • Long-term sediment control shall include an erosion control and revegetation program designed to allow reestablishment of native vegetation on slopes in undeveloped areas. • In areas where habitat for fish and other wildlife would be threatened by transportation facility discharge, alternate discharge options shall be sought to protect sensitive fish and wildlife populations. Maintenance activities over the life of the project shall include heavy-duty sweepers, with disposal of collected debris in sanitary landfills to effectively reduce annual pollutant loads where appropriate. Catch basins and storm drains shall be cleaned and maintained on a regular basis. • Landscaped areas shall use Integrated Pest Management techniques (methods that minimize the use of potentially hazardous chemicals for landscape pest control and vineyard operations). The handling, storage, and application of potentially hazardous chemicals shall take place in accordance with all applicable laws and regulations. *Groundwater* • Detention basins, infiltration strips, and other features to facilitate groundwater recharge shall be incorporated into the design of new freeway and roadway facilities whenever feasible. *Flooding* • Projects shall be designed so that they do not increase downstream flooding risks by increasing peak runoff volumes. Including detention ponds in designs for roadway medians, parking areas, or other facilities, or increasing the size of local flood control facilities serving the project areas could achieve this measure. Existing pervious surface shall be preserved to the maximum extent feasible to minimize increases in stormwater runoff volumes and rates. • Projects shall be designed to allow lateral transmission of stormwater flows across transportation corridors with no increased risk of upstream flooding. Culverts and bridges shall be designed to adequately carry drainage waters through project sites. The bottom of overpass structures should be elevated at least 1 foot above the 100-year flood elevation at all stream and drainage channel crossings. • All roadbeds for new highway and rail transit facilities shall be elevated at least 1 foot above the 100-year base flood elevation.	

Table S-1: Summary of Impacts and Mitigation

	Impact	*Mitigation Measures*	*Significance After Mitigation*
2.8-3	Concurrent implementation of the proposed Transportation 2035 Plan and projected regional development could contribute to degradation of regional water quality, reduction of groundwater recharge, or result in increased flooding hazards.	Mitigation measures 2.8(a) and 2.8(b) provided above.	*Significant Cumulative Impact, Contribution Not Cumulatively Considerable.*
Biological Resources			
2.9-1	Transportation 2035 Plan projects could adversely affect wetlands and aquatic resources.	**2.9(a)** As project sponsors prepare the environmental review document for their individual project pursuant to CEQA/NEPA and prior to environmental certification, project sponsors shall consider adopting appropriate measures that would minimize or eliminate cumulatively considerable environmental impacts pursuant to CEQA/NEPA. MTC shall be provided with status reports of compliance with mitigation measures pursuant to MTC Resolution 1481, Revised. Mitigation measures to reduce impacts on wetlands and aquatic resources that shall be considered by project sponsors and decision-makers may include, but are not limited to, those described below. • In keeping with the "no net loss" policy, project designs shall be configured, whenever possible, to avoid sensitive wetlands and avoid disturbances to wetland and riparian corridors in order to preserve both the habitat and the overall ecological functions of these areas. Projects shall minimize ground disturbances and construction footprints near such areas to the extent practicable. • Where avoidance of wetlands is not feasible, project sponsors will minimize fill and the use of in-water construction methods, and only do so with express permit approval from the appropriate resources agencies and in accordance with applicable existing regulations such as Coastal Zone regulations of wetland fill. Project sponsors shall arrange for off-site replacement of removed wetlands in accordance with the applicable existing regulation and subject to approval by the Corps, and possibly by the USFWS, RWQCB, and CDFG.	*Less than significant*
2.9-2	Transportation 2035 Plan projects could cause substantial disturbance of biologically unique or sensitive communities.	**2.9(b)** As project sponsors prepare the environmental review document for their individual project pursuant to CEQA/NEPA and prior to environmental certification, project sponsors shall consider adopting appropriate measures that would minimize or eliminate cumulatively considerable environmental impacts pursuant to CEQA/NEPA. MTC shall be provided with status reports of compliance with mitigation measures pursuant to MTC Resolution 1481, Revised. Mitigation measures to reduce impacts on biologically unique or sensitive communities that shall be considered by project sponsors and decision-makers may include, but are not limited to, those described below. • In accordance with CDFG guidelines, project sponsors shall make an effort to minimize impacts on sensitive plant communities, especially riparian habitats, when designing and permitting projects. Where applicable, projects shall conform to the provisions of special area management or restoration plans such as the Suisun Marsh Protection Plan, which outlines specific measures to protect sensitive vegetation communities.	*Less than significant*

Table S-1: Summary of Impacts and Mitigation

	Impact	*Mitigation Measures*	*Significance After Mitigation*
2.9-3	Transportation 2035 Plan projects could have deleterious impacts on special-status plant and/or wildlife species identified as endangered, candidate, and/or special-status.	**2.9(c)** As project sponsors prepare the environmental review document for their individual project pursuant to CEQA/NEPA and prior to environmental certification, project sponsors shall consider adopting appropriate measures that would minimize or eliminate cumulatively considerable environmental impacts pursuant to CEQA/NEPA. MTC shall be provided with status reports of compliance with mitigation measures pursuant to MTC Resolution 1481, Revised. Mitigation measures to reduce impacts on special-status plant or animal species that shall be considered by project sponsors and decision-makers may include, but are not limited to, those described below. • In support of CEQA, NEPA, CDFG and USFWS permitting processes for individual Transportation 2035 Plan transportation projects, biological and wetland surveys shall be conducted as part of the environmental review process to determine the presence and extent of sensitive habitats and/or species in the project vicinity. Surveys shall follow established methods and shall be undertaken at times when the subject species is most likely to be identified. In cases where impacts to State- or federal-listed plant or wildlife species are imminent, formal protocol-level surveys may be required on a species-by-species basis to determine the local distribution of these species. Consultation with the USFWS and/or CDFG shall be conducted early in the planning process at an informal level for transportation projects that could adversely affect federal or State candidate, threatened, or endangered species to determine the need for further consultation or permitting actions. • When drafting mitigations, adaptive management strategies shall be used, when feasible, to capitalize on the progressive understanding of ecological systems and management practices, apply lessons learns from current and future projects and research studies, accommodate for uncertainties or unknowns, and improve progress toward desired ecological outcomes. • Project designs shall be reconfigured, whenever possible, to avoid sensitive wetland or biological resources and avoid disturbances to wetland and riparian corridors. Projects shall minimize ground disturbances and construction footprints near sensitive areas to the extent practicable. • To the extent practicable, project activities in the vicinity of sensitive resources shall be completed during the period that best avoids disturbance to plant and wildlife species present (e.g., May 15 to October 15 near salmonid habitat and vernal pools). • Individual projects shall minimize the use of in-water construction methods in areas that support sensitive aquatic species, especially when listed species could be present. • In the event that equipment needs to operate in any watercourse with flowing or standing water, a qualified biological resource monitor shall be present at all times to alert construction crews to the possible presence of California red-legged frog, nesting birds, salmonids, or other aquatic species at risk during construction operations. • If project activities involve pile driving or vibratory hammering in or near water, interim hydroacoustic threshold criteria for fish should be adopted as set forth by the Interagency Fisheries Hydroacoustic Working Group, as well as other avoidance methods to reduce the adverse affects of construction to sensitive fish, peciverous birds, and marine mammal species. • Construction periods shall not occur during the breeding season near riparian habitat, freshwater marshlands, and salt marsh habitats that support nesting bird species protected under the Endangered Species Act and Migratory Bird Treaty Act (e.g., yellow warbler, tricolored blackbird, California clapper rail, etc.). • A qualified biologist shall locate and fence off sensitive resources before	*Significant*

Table S-1: Summary of Impacts and Mitigation

	Impact	*Mitigation Measures*	*Significance After Mitigation*
		construction activities begin and, where required, shall inspect areas to ensure that barrier fencing, stakes, and setback buffers are maintained during construction. • For work sites located adjacent to special-status plant or wildlife populations, a biological resource education program shall be provided for construction crews and contractors (primarily crew and construction foremen) before construction activities begin. • Biological monitoring shall be particularly targeted for areas near identified habitat for federal- and state-listed species, and a "no take" approach shall be taken whenever feasible during construction near special-status plant and wildlife species. • Efforts shall be made to minimize the negative effects of light and noise on listed and sensitive wildlife.	
2.9-4	Transportation 2035 Plan projects could have deleterious impacts on proposed or designated critical habitats.	Mitigation measures 2.9(a) through 2.9(c), above, are expected to reduce impacts on steelhead critical habitat to less-than-significant. Specific projects that may be located within other critical habitat areas will be subject to established protocols for surveys and protective measures. As described in these mitigation measures, project designs shall be reconfigured to avoid or minimize adverse affects to the primary constituent elements of designated critical habitats to the extent practicable, and consultation with the USFWS shall be conducted early in the process at an informal level to determine the need for further mitigation, consultation, or permitting action. No further program-level mitigation measures are required.	*Less than significant*
2.9-5	Construction activities could adversely affect nonlisted nesting raptor species considered special-status by CDFG under CDFG Code 3503.5.	**2.9(d)** As project sponsors prepare the environmental review document for their individual project pursuant to CEQA/NEPA and prior to environmental certification, project sponsors shall consider adopting appropriate measures that would minimize or eliminate cumulatively considerable environmental impacts pursuant to CEQA/NEPA. MTC shall be provided with status reports of compliance with mitigation measures pursuant to MTC Resolution 1481, Revised. Mitigation measures to reduce impacts on nonlisted nesting raptor species that shall be considered by project sponsors and decision-makers may include, but are not limited to, those described below. • To avoid and minimize impacts to nesting raptors, preconstruction surveys shall be performed prior to initiating construction activities during the breeding season (February 1 through August 31). If it is determined that young have fledged and are self-sufficient, no further mitigation would be required. • To avoid and minimize potential impacts to nesting raptors, a no-disturbance buffer zone shall be established around active nests during the breeding season. • The size of individual buffers could be adjusted based on an evaluation of the site by a qualified raptor biologist in cooperation with the USFWS and CDFG.	*Less than significant*
2.9-6	Construction activities could adversely affect non-listed nesting birds species, considered special-status by the USFWS under the federal Migratory Bird Treaty Act, and by CDFG under the CDFG Code 3503 and 3513.	**2.9(e)** As project sponsors prepare the environmental review document for their individual project pursuant to CEQA/NEPA and prior to environmental certification, project sponsors shall consider adopting appropriate measures that would minimize or eliminate cumulatively considerable environmental impacts pursuant to CEQA/NEPA. MTC shall be provided with status reports of compliance with mitigation measures pursuant to MTC Resolution 1481, Revised. At the time of project certification, project sponsors shall agree to comply with mitigation measures to avoid impacts to nesting bird species protected under the federal Migratory Bird Treaty Act, as follows: • Concurrent with surveys described in Mitigation Measure 2.9(d), surveys shall be performed for migratory birds listed in the federal List of Migratory Birds (50	*Less than significant*

Table S-1: Summary of Impacts and Mitigation

	Impact	*Mitigation Measures*	*Significance After Mitigation*
		Code of Federal Regulations, Chapter 1, Part 10 Section 10.13). More than 500 native and migratory bird species are protected by this statute. If protected breeding birds are detected during surveys, a buffer zone, depending upon the species identified, shall be established around active nesting sites in coordination with CDFG and the USFWS.	
2.9-7	Implementation of the Transportation 2035 Plan could conflict with adopted resource protection or conservation plans.	As project sponsors prepare the environmental review document for their individual project pursuant to CEQA/NEPA and prior to environmental certification, project sponsors shall consider adopting appropriate measures that would minimize or eliminate cumulatively considerable environmental impacts pursuant to CEQA/NEPA. MTC shall be provided with status reports of compliance with mitigation measures pursuant to MTC Resolution 1481, Revised. Mitigation measures to reduce conflicts with adopted resource protection or conservation plans shall be considered by project sponsors and decision-makers may include, but are not limited to, those described below. **2.9(f)** Project sponsors whose projects are located within the coastal zone shall carefully review the applicable local coastal program for potential conflicts, and involve the California Coastal Commission as early as possible in the project-level EIR process. **2.9(g)** Relevant Conservation Measures, including species surveys and road design requirements, shall also apply, wherever feasible, to *non-covered* MTC transportation projects that fall within the ECCC HCP boundaries, as well as Plan projects outside the ECCC HCP boundaries, because. issues related to wildlife road mortality, habitat fragmentation, wildlife corridor connectivity, and pre-and post-project wildlife monitoring are applicable to all transportation projects, not just those located within the HCP coverage area. For rural infrastructure projects, this includes but is not limited to the following Conservation Measure: *Conservation Measure 1.14: Design Requirements for Covered Roads outside the UDA* **Siting Requirements** • Planned roads will be located in the least environmentally sensitive location feasible and will avoid, to the greatest extent feasible, impacts on covered species and sensitive natural communities such as wetlands. Alignments will follow existing roads, easements, rights-of-way, and disturbed areas as appropriate to minimize additional habitat fragmentation. The footprint of disturbance will be minimized to the maximum extent practicable. • Equipment storage, fueling, and staging areas will be sited on disturbed areas or on ruderal or non-sensitive nonnative grassland land cover types, when these sites are available, to minimize risk of direct discharge into riparian areas or other sensitive land cover types. • Project surveys, including land cover mapping, will be conducted during the conceptual planning stage of each project (i.e., well in advance of project design) so that the results can inform the siteing and design process. Project surveys should be conducted in as wide a study corridor as possible to enable project siting to minimize environmental impacts. • All planning survey requirements of this Plan will be followed within the construction corridor (i.e., the limit of project construction plus equipment staging areas and access roads) and the entire road right-of-way. Expanding the survey area beyond the project footprint will help identify covered species and their habitats so that impacts on covered species that occur adjacent to the construction zone can be minimized. • For certain road projects, identified in Table 6-6 of the HCP, data collection will be required on wildlife movement through the road study corridor for at least one year prior to project design. Wildlife movement will be studied at the site to	*Less than significant*

Table S-1: Summary of Impacts and Mitigation

Impact	*Mitigation Measures*	*Significance After Mitigation*
	determine which species move across it, when they move, and, most importantly, which landscape features are most often used. These data will be used to select the most appropriate design requirements for the species and conditions unique to the site (see below). • Transportation project proponents will consult early with the HCP/NCCP Implementing Entity, CDFG, and USFWS on individual projects to ensure that conceptual designs (siting) and project designs (construction and staging areas) meet the terms of the HCP. **Design Requirements for Wildlife Movement and Impact Minimization** • Design requirements will be updated or changed by designs shown by the best available science to be more effective at facilitating safe wildlife movement across roads. The effectiveness of road crossings for wildlife is an active area of research, so frequent advances in design are expected throughout the permit term. Further, improvements will be design to be durable, simple, and require the least amount of routine maintenance possible to ensure long-term functionality. • Wildlife crossing needs will be assessed for each road project as a whole (for those projects subject to this provision, not by road segment, and for each wildlife species likely to need to cross the facility. Data will be collected on wildlife movements at the proposed project site for at least 1 year. These data will inform the design of wildlife movement structures suitable for the site and the species that use the area. • Road undercrossings will be constructed at frequent intervals to allow wildlife movement. A combination of large structures (bridges, large culverts, or large tunnels) spaced at greater intervals and small structures (small culverts or tunnels) spaced at frequent intervals will be used to accommodate a wide variety of wildlife species. However, placement of undercrossings in areas where wildlife are most likely to use them is more important than maintaining a certain frequency or spacing. Wildlife crossings that serve multiple species should be used whenever possible. Crossing facilities should be installed at known travel routes, natural pinch points, or other topographically appropriate locations to maximize the chance of use. Suitable areas may include stream crossings or natural drainages. Undercrossings should be placed at grade whenever possible to maximize their use by wildlife. • Bridges, viaducts, or causeways will be used for certain projects to provide the most natural passageways for wildlife (i.e., to allow natural vegetation and physical features to occur in the undercrossing). If possible, bridges will span the bed and bank of streams and avoid or minimize bridge piers or footings within the stream, within bridge safety limits. If possible, the span of bridges that cross streams should also include some upland habitat beneath their spans to provide dry areas for wildlife species that do not use creeks or for use during storms. Native plantings, natural debris, or rocks should be installed under bridges to provide wildlife cover and encourage the use of crossings. • Large wildlife crossings (for medium to large mammals) will be placed approximately once every mile along new or substantially expanded roads that cross wildlife movement routes. Small wildlife crossings will be placed approximately every 1,000 feet along new or substantially expanded roads. This is the same interval of undercrossings suitable for California tiger salamander installed along Vasco Road in the inventory area (65 undercrossings in 13 miles). Within these parameters, undercrossings should be placed where wildlife are most likely to use them, rather than evenly spaced. The required interval can be used as an average if it can be demonstrated that strict adherence to the requirement will not benefit wildlife movement.	

Table S-1: Summary of Impacts and Mitigation

Impact	*Mitigation Measures*	*Significance After Mitigation*
	• Tunnels or culverts must be the minimum length, height, and width necessary to provide safe passage under the road. Culvert designs will be based on the best available data at the time. Current thinking recommends that culverts designed for medium-size mammals such as San Joaquin kit fox, coyote, raccoon, be 5–8 feet in diameter (although culverts larger than 8 feet in diameter may be needed for longer crossings). Culverts designed for small mammals are recommended at 18–48 inches in diameter; smaller structures may be preferred by smaller wildlife species. Culverts should, when feasible, provide a natural substrate on which wildlife can travel (e.g., open bottom). It is also recommended that wildlife undercrossings using tunnels or culverts use grating on the inactive part of the roadbed (e.g., road shoulders) to allow filtration of ambient light and moisture but minimize noise intrusion. Artificial lighting inside tunnels or culverts is not recommended; these devices have not been shown to be effective and may deter nocturnal wildlife. • Fencing will be used along the roadway to direct wildlife to undercrossings and minimize their access to the road (see Table 6-6 for applicability). Fencing designs will be customized for the wildlife expected to use the undercrossing and will be based on the best available data at the time. Fencing must be continuous along the road and must be attached to the undercrossing to facilitate its use. Fencing must also extend well beyond the target undercrossing to reduce the chance of wildlife moving around the fence. For example, four fencing designs have been installed along Vasco Road and monitored for their effectiveness in reducing mortality of California tiger salamanders. Fencing must be monitored regularly by the applicant and repairs made promptly to ensure effectiveness. Wildlife undercrossings must be at the same or similar elevation as the fencing (e.g., along elevated roadways) to increase chances of their use. Vegetation must be managed along small mammal and amphibian fencing to reduce the opportunity for these species to climb the fence. Fencing designed for small mammal or amphibian exclusion must be installed at least 8 inches deep into the soil to prevent small mammal burrows providing access under the fence. Where roads cross the wildlife exclusion fences, gates should be used whenever possible with material at the base of the gate to minimize the gap between the gate and the roadbed. If gates are not feasible, an in-roadway barrier (e.g., wildlife grates or similar devices) or device that channels species away must be installed to deter wildlife from moving around fences into the road. • When compatible with vehicle safety, road medians should allow wildlife to cross under or over the median in the event they become trapped on the roadway. **Construction Requirements** • The following measures are specifically required for rural road and transportation projects. Other conservation measures described in the ECCC HCP for covered activities also apply. • No erodible materials will be deposited into watercourses. Brush, loose soils, or other debris material will not be stockpiled within stream channels or on adjacent banks. • All no-take species will be avoided. • Construction activities will comply with the Migratory Bird Treaty Act and will consider seasonal requirements for birds and migratory non-resident species, including covered species. • Temporary stream diversions, if required, will use sand bags or other approved methods that minimize in-stream impacts and effects on wildlife. • Silt fencing or other sediment trapping method will be installed downgradient from construction activities to minimize the transport of sediment off site. • Barriers will be constructed to keep wildlife out of construction sites, as	

Table S-1: Summary of Impacts and Mitigation

	Impact	*Mitigation Measures*	*Significance After Mitigation*
		appropriate. • Onsite monitoring will be conducted throughout the construction period to ensure that disturbance limits, BMPs, and Plan restrictions are being implemented properly. • Active construction areas will be watered regularly to minimize the impact of dust on adjacent vegetation and wildlife habitats, if warranted. • The following construction measure will be applied differently to each rural road project, as specified in Table 6-6 of the ECCC HCP. • Install sturdy lock-boxes for cameras at each large wildlife undercrossing to facilitate wildlife monitoring by the Implementing Entity. Boxes shall be designed for monitoring equipment to be used, include a removable door, and be prewired for electricity (solar, battery, or alternating current). This will provide for the least intrusive, most secure, most flexible, and most cost-effective way to monitor wildlife usage, while minimizing human impacts. Boxes will be mounted on adjustable pedestals to vary the height of the box to facilitate monitoring of target species of varying size. **Post-construction Requirements** • Roadside vegetation within the right-of-way and adjacent to HCP/NCCP Preserves or other open space areas will be controlled to prevent the spread of invasive exotic plants such as yellow star-thistle into nearby or adjacent preserves. • Vegetation and debris must be managed in and near culverts and under and near bridges to ensure that entryways remain open and visible to wildlife and the passage through the culvert or under the bridge remains clear. • Cut-and-fill slopes will be revegetated with native, non-invasive nonnative, or non-reproductive (i.e., sterile hybrids) plants suitable for the altered soil conditions. • All structures constructed for wildlife movement (tunnels, culverts, underpasses, fences) must be monitored at regular intervals and repairs made promptly to ensure that the structure is in proper condition. Implementation of this mitigation measure is expected to reduce potentially significant conflicts with ECCC HCP to a less-than-significant level.	
2.9-8	Transportation 2035 Plan projects, combined with forecast urban development, could contribute to the removal or fragmentation of habitat area.	Same as above.	*Significant Cumulative Impact, Contribution Cumulatively Considerable*
Visual Resources			
2.10-1	Transportation 2035 Plan projects could affect visual resources during their construction.	**2.10(a)** As project sponsors prepare the environmental review document for their individual project pursuant to CEQA/NEPA and prior to environmental certification, project sponsors shall consider adopting appropriate measures that would minimize or eliminate cumulatively considerable environmental impacts pursuant to CEQA/NEPA. MTC shall be provided with status reports of compliance with mitigation measures pursuant to MTC Resolution 1481, Revised. Mitigation measures to reduce significant visual impacts that shall be considered by project sponsors and decision-makers may include programs for reducing the visibility of construction staging areas, for fencing and screening these areas with low contrast materials consistent with the surrounding environment, and for revegetating graded slopes and	*Less than significant*

Table S-1: Summary of Impacts and Mitigation

	Impact	*Mitigation Measures*	*Significance After Mitigation*
		exposed earth surfaces at the earliest opportunity.	
2.10-2	Construction of certain Transportation 2035 Plan projects could adversely affect visual resources by adding or expanding transportation facilities in rural or open space areas, blocking public views, or changing the visual character and quality of designated or eligible State Scenic Highways.	**2.10(b)** As project sponsors prepare the environmental review document for their individual project pursuant to CEQA/NEPA and prior to environmental certification, project sponsors shall consider adopting appropriate measures that would minimize or eliminate cumulatively considerable environmental impacts pursuant to CEQA/NEPA. MTC shall be provided with status reports of compliance with mitigation measures pursuant to MTC Resolution 1481, Revised. Mitigation measures to reduce significant visual impacts that shall be considered by project sponsors and decision-makers may include, but are not limited to, those described below. • Design projects to minimize contrasts in scale and massing between the project and surrounding natural forms and development. • Site or design projects to minimize their intrusion into important viewsheds; • Use see-through safety barrier designs (e.g. railings rather than walls) when possible; • Develop interchanges and transit lines at the grade of the surrounding land to limit view blockage wherever possible; • Contour the edges of major cut and fill slopes to provide a more natural looking finished profile and use natural shapes, textures, colors, and scale to minimize contrasts between the project and surrounding areas; • Design landscaping along highway corridors to add significant natural elements and visual interest to soften the hard edged, linear travel experience that would otherwise occur; • Complete design studies for projects in designated or eligible State Scenic Highway corridors. Consider the "complete" highway system and develop mitigation measures to minimize impacts on the quality of the views or visual experience that originally qualified the highway for Scenic designation.	*Significant*
2.10-3	The construction of soundwalls along freeways and arterials could significantly alter views.	**2.10(c)** As project sponsors prepare the environmental review document for their individual project pursuant to CEQA/NEPA and prior to environmental certification, project sponsors shall consider adopting appropriate measures that would minimize or eliminate cumulatively considerable environmental impacts pursuant to CEQA/NEPA. MTC shall be provided with status reports of compliance with mitigation measures pursuant to MTC Resolution 1481, Revised. Mitigation measures to reduce significant visual impacts impacts associated with soundwalls that shall be considered by project sponsors and decision-makers may include, but are not limited to, those described below. • Develop new or expanded roadways below the grade of surrounding areas to minimize the need for tall soundwalls. • Use transparent panels to preserve views where soundwalls would block views from residences. • Use landscaped earth berm or a combination wall and berm to minimize the apparent soundwall height. • Construct soundwalls of materials whose color and texture complements the surrounding landscape and development. • Design soundwalls to increase visual interest, reduce apparent height, and be visually compatible with the surrounding area. • Landscape the soundwalls with plants that screen the soundwall, preferably with either native vegetation or landscaping that complements the dominant landscaping of surrounding areas.	*Less than significant*

Table S-1: Summary of Impacts and Mitigation

	Impact	*Mitigation Measures*	*Significance After Mitigation*
2.10-4	Concurrent implementation of the proposed Transportation 2035 Plan and regional and local land use plans would result in a cumulatively considerable change in the visual character of many areas in the region.	Mitigation Measures 2.10(a) through 2.10(c) also apply to this cumulative impact.	*Significant Cumulative Impact, Contribution Cumulatively Considerable*
Cultural Resources			
2.11-1	Transportation 2035 Plan projects that involve ground-disturbing activities and/or the introduction or alteration of visual elements have the potential to disturb, destroy, or significantly affect archaeological, paleontological, and/or geological resources and/or human remains.	**2.11(a)** As project sponsors prepare the environmental review document for their individual project pursuant to CEQA/NEPA and prior to environmental certification, project sponsors shall consider adopting appropriate measures that would minimize or eliminate cumulatively considerable environmental impacts pursuant to CEQA/NEPA. MTC shall be provided with status reports of compliance with mitigation measures pursuant to MTC Resolution 1481, Revised. Mitigation measures to reduce impacts on archaeological, paleontological, and/or geological resources and/or human remains that shall be considered by project sponsors and decision-makers may include, but are not limited to, those described below. • Face-to-face consultation with Native American tribes and individuals with cultural affiliations where the project is proposed to determine the potential for, or existence of, cultural resources, including cemeteries and sacred places, prior to project design and implementation stages. • Preparation of a research design and testing plan in advance of implementation of the construction project, in order to efficiently facilitate the avoidance of cultural sites throughout the development process. • Written assessment by a qualified tribal representative of sites or corridors with no identified cultural resources but which still have a moderate to high potential for containing tribal cultural resources. • Upon "late discovery" of prehistoric archaeological resources during construction, project sponsors shall consult with the Native American tribe as well as with the "Most-Likely-Descendant" as designated by the Native American Heritage Commission pursuant to PRC 5097. • Preservation in place; this is the preferred manner of mitigating impacts to archeological sites because it maintains the relationship between artifacts and the archeological context, and it may also avoid conflict with religious or cultural values of groups associated with the site. This may be achieved through incorporation within parks, green-space, or other open space by re-designing project using open space or undeveloped lands. This may also be achieved by following procedures for capping the site underneath a paved area. When avoiding and preserving in place are infeasible, a data recovery plan may be prepared according to CEQA Section 15126.4. A data recovery plan consists of: the documentation and removal of the archeological deposit from a project site in a manner consistent with professional (and regulatory) standards; the subsequent inventorying, cataloguing, analysis, identification, dating, and interpretation of the artifacts; and the production of a report of findings.	*Less than significant*

Table S-1: Summary of Impacts and Mitigation

	Impact	*Mitigation Measures*	*Significance After Mitigation*
2.11-2	Transportation 2035 Plan projects have the potential to disturb or destroy historical resources.	**2.11(b)** As project sponsors prepare the environmental review document for their individual project pursuant to CEQA/NEPA and prior to environmental certification, project sponsors shall consider adopting appropriate measures that would minimize or eliminate cumulatively considerable environmental impacts pursuant to CEQA/NEPA. MTC shall be provided with status reports of compliance with mitigation measures pursuant to MTC Resolution 1481, Revised. Mitigation measures to reduce impacts on historical that shall be considered by project sponsors and decision-makers may include, but are not limited to, those described below. • Assessment by a qualified professional of structures greater than 40 years in age within the area of potential effect to determine their eligibility for recognition under State, federal, or local historic preservation criteria. • The treatment of identified historic resources in accordance with either the Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* or *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*.	*Less than significant*
2.11-3	Transportation 2035 Plan projects, combined with projected future population growth and development, may result in a cumulative disturbance of cultural resources.	Mitigation measures 2.11(a) and 2.11(b).	*Significant Cumulative Impact, Contribution Not Cumulatively Considerable*